LAB Scenario

In the lab, you mixed 0.5 g Ba with 100mL H20. The mass of the water was 100g. The specific heat of water is 4.184 J/g \* C .

1. Write the balanced equation for this reaction(note: you form a base (what polyatomic ion is present in a base) and H2 gas). Identify the type of reaction. Identify the evidence that the chemical reaction took place.

2. How many grams of barium are used in this reaction? What is the amount in moles?

3. In a complete sentence, describe the reaction as endothermic or exothermic and explain how you know that.

4. Is the H for this reaction positive or negative?

5. Show calculations used to determine the amount of heat gained by the water. Give this answer in kilojoules.

6. Show your calculations used to determine the heat of reaction for this equation. The unit should be in kj/mole.

7. What is the strong base formed in this reaction?

8. Write the thermochemical equation for this reaction (include both formats).

9. According the balanced chemical equation, if 0.75g of barium were used, how much hydrogen gas would have been produced at STP?